

CLAIMS:

1. Method and system for visually detecting paint gloss deviations, particularly a fogginess and mottling of the paint in a surface paint coat of a vehicle by means of an illuminating system illuminating the vehicle, characterized in that the outer surfaces (F1) of the two vehicle sides as well as additional surfaces (F3, F5 and F2, F4) of the forward and rearward vehicle body (15, 16) are illuminated by light beaming devices (1 to 4; 5 to 8) of the illuminating system in a partially areal manner and, at a distance (a) from the vehicle (F) at predefined viewing ranges and defined viewing positions (S1 to S6), an observation of these surfaces (F1 to F5) can be carried out on a marked path (10, 11).

2. Method according to Claim 1, characterized in that the marked path (10) consists of a semicircle to the lateral surfaces (F1) of the vehicle and an adjoining segment (11) of a circle to the forward and rearward vehicle body 15, 16, and, on the path (10,11), the viewing positions (S1 to S6) are assigned to the light beaming devices (1 to 8), and additional positions for looking at the vehicle surfaces (F1 to F5) exist between these viewing positions (S1 to S6) on the marked path (10, 11).

3. System for implementing the method according to Claims 1 or 2, characterized in that the light beaming devices (5, 6) are in each case arranged at a distance from both sides of the vehicle (F) in the longitudinal vehicle center plane (Y-Y) for the lateral vehicle surface (F1), and approximately in the transverse vehicle center plane (X-X) for the forward and rearward vehicle body (15, 16).

4. System for implementing the method according to one of the preceding claims, characterized in that the viewing positions (S1 and S4) are arranged on the marked path (10) directly behind the light beaming devices (5, 6) in the transverse center plane (X-X) of the vehicle, and the additional viewing positions (S2, S3, S5 and S6) for the light beaming devices (7, 8) assigned to the forward and rearward vehicle body part (15, 16) are arranged in the longitudinal vehicle center plane (Y-Y) in each case on both sides of these light beaming devices (7, 8) on the path (11).

5. System according to Claim 3 or 4, characterized in that the light beam of the respective light beaming device (7, 8) impinges approximately in the center of the forward and rearward vehicle body (15, 16) as well as of the lateral vehicles surfaces (F1), and the light cones (L3 and L4) of the light beaming devices (5, 6, 7 and 8) comprise the entire length of the lateral

vehicle surfaces (F1) and the surfaces (F4 and F5) of the forward and rearward vehicle body (15, 16).

6. System according to Claims 3, 4 or 5, characterized in that the viewing range from the lateral viewing positions (S1, S4) on the marked path (10), on the one hand, (something is missing in the German - translator) the entire lateral vehicle surface (F1) and, on the other hand, overlap one another with the viewing ranges from the forward viewing positions (S5 and S6) and the rearward viewing positions (S2 and S3) onto the forward and rearward vehicle body (15, 16).

7. System for implementing the method according to one of the preceding claims, characterized in that two mutually spaced light beaming devices (1, 2 and 3, 4) are arranged on each lateral surface (F1) of the vehicle (F), whose light cones (L1, L2) mutually intersect on the lateral surface (F1), and the lateral vehicle surface as well as the surfaces (F4 and F5) of the forward and rearward vehicle body (15, 16) can be illuminated to the longitudinal vehicle center plane (Y-Y).

8. System according to Claim 7, characterized in that the viewing positions (S1, S4) on the marked path (10) for each vehicle side are in each case provided between the two light beaming devices (1, 2 and 3, 4) approximately in the transverse vehicle center plane (X-X), and the viewing range, in each case, extends over a partial area of the lateral surface (F1) and intersects with the viewing ranges from the forward and rearward viewing positions (S5, S6 and S2, S3) on the lateral surfaces (F1).

9. System according to one of the preceding claims, characterized in that the light beaming devices (8) for the forward vehicle surface (F5) are aligned such that the light beam is aligned approximately at an angle  $\alpha$  of  $20^\circ$  with respect to the ground and impinges in the center on the surface to be checked.

10. System according to one of the preceding claims, characterized in that the light beaming device (7) for the rearward vehicle surface (F4) is aligned such that the light cone is aligned approximately in the center at an angle of  $\Delta = 15^\circ$  with respect to the ground and, in the vertical direction, impinges on a upward-curved area of the rear part, and the light cone covers the lower edge of the rear window.

11. System according to one of the preceding claims, characterized in that the light beaming device (8) on the forward vehicle body (15) is aligned such that the light cone impinges in the vertical direction on the upward-curved area of the forward part, and the light cone partially covers the vehicle hood.

12. System according to one of the preceding claims, characterized in that the laterally arranged light beaming devices (1, 2; 5) are aligned at an angle of  $90^\circ$  with respect to the ground, and the light cone extends in the vertical direction approximately from the vehicle side member to the belt line of the vehicle (F).